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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/221,291	12/23/1998	MARTIN H. GRAHAM	003921.P005	4813
7590 09/25/2007 Edwin H. Taylor Blakely, Sokoloff, Taylor, & Zafman LLP 12400 Wilshire Boulevard Seventh Floor Los Angeles, CA 90025			EXAMINER BURD, KEVIN MICHAEL	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 09/25/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/221,291

Applicant(s)

GRAHAM, MARTIN H.

Examiner

Kevin M. Burd

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This office action, in response to the amendment and request for continued examination, is a non-final office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 8/16/2007 has been entered.

Response to Amendment

3. Applicant has amended the pending claims. The rejection of the claims is stated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19-22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton et al (US 5,677,927) in view of Omura et al (US 5,157,686) further in view of Devon (US 5,692,127).

Regarding claims 19 and 25, Fullerton discloses a method of encoding data bits for transmission. In figure 10, an information source 1018 outputs data bits to a sub-carrier generator and modulator 1022. Manchester encoding of the digital data produces a digital modulated sub-carrier signal 1024. The sub-carrier time modulator 1016 uses the Manchester encoded data to pulse position modulate the coded timing signal 1014 (column 14, lines 44-57). Column 4, lines 1-10 also discloses the encoding data bits for transmission using Manchester encoding and pulse position modulation (PPM). Fullerton does not disclose the specifics of the Manchester encoding. Omura discloses how data is Manchester encoded and discloses a typical data sequence that is Manchester encoded. Figure 2 discloses a data sequence 0110101 and the corresponding Manchester encoded bits. As shown in figure 2, a first row of a data bit sequence is shown comprising bits as 0110101. Also shown below each data bit are Manchester encoded bits. Each "0" bit of the data bit sequence is encoded as a "01" Manchester encoded bit, and each "1" bit of the data bit sequence is encoded as a "10" Manchester encoded bit (column 7, lines 10-21). Manchester encoding is a phase encoding where each bit is encoded by a positive 90-degree phase transition, or a negative 90-degree phase transition. Manchester code is sometimes known as a biphasic code. Therefore, the Manchester encoded data in Fullerton discloses a first biphasic pulse having a first portion of a first polarity (1) followed by a second portion of

a second polarity (0). After waiting a first period of time (in this case zero second), a second biphase pulse having a third portion of the second polarity (0) followed by a fourth portion of the first polarity (1) is generated. After waiting a second period of time (zero seconds), another biphase pulse is generated having a first portion of a first polarity (1) followed by a second portion of a second polarity (0). After waiting another period of time (in this case zero second), an additional biphase pulse having a third portion of the second polarity (0) followed by a fourth portion of the first polarity (1) is generated. The sequence of 10101 is generated in Manchester coding and shown in figure 2. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the encoding of data according to Manchester encoding and transmit data as stated in Omura into the Manchester and PPM encoding system and method of Fullerton. Omura further describes how data is Manchester encoded in any Manchester encoding system. Though the combination of Fullerton and Omura discloses using Manchester encoding and PPM, the combination does not disclose the specifics of the pulse position modulation. Devon discloses transmitting a pulse to represent a plurality of data bits as shown in figure 4. A first position of a pulse represents a "00". The pulse in a second position represents a "01". The pulse in a third position represents a "10". The pulse in a fourth position represents an "11". The pulse position modulation shown in figure 4 shows how data can be added to times when no data is being transmitted to increase the capacity of a system. More data can be sent that was sent previously. Figure 4 shows multiple bits being sent using PPM. It would have been obvious for one of ordinary skill in the art at the time of the invention to

combine the method of encoding multiple bits using pulse position modulation as shown by Devon into the method and system of the combination of Fullerton and Omura for the reasons stated above. The combination of Fullerton and Omura already discloses using PPM.

Regarding claim 20, the biphasic pulse has no DC component since the positive amplitude is equal to the negative amplitude.

Regarding claim 21, the combination discloses transmitting bits. The bits will be transmitted as pulses. The pulses will have an amplitude and pulse width.

Regarding claim 22, the combination discloses transmitting bits. The bits will be transmitted as pulses. One amplitude represents a "1" bit while a second amplitude represents a "0" bit.

Regarding claim 24, the combination of Fullerton, Omura and Devon discloses a method for encoding a signal above. The combination does not disclose the transmission occurs over a twisted wire pair. However, the combination discloses the transmission occurs in a system with minimal interference. It would have been obvious for one of ordinary skill in the art at the time of the invention transmit the signals generated by the combination in any transmission system that allows the information to be received at the desired location free of interference.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton et al (US 5,677,927) in view of Omura et al (US 5,157,686) further in view of Devon (US 5,692,127) further in view of Pernyeszi (US 5,969,547).

Regarding claim 23, the combination of Fullerton, Omura and Devon discloses a method for encoding a signal stated in paragraph 4. The combination does not disclose the pulse width of each of the pulses represents at least one bit. Pernyeszi discloses pulse widths carry the information with a pulse's width representing a digital value (column 1, lines 17-25). It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate Pernyeszi's method of pulse width encoding data into the method of the combination of Fullerton, Omura and Devon to transmit more information than either system is capable alone. Information can be transmitted over less time and the transmitter will consume less power due to the limited transmission time.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin M. Burd
8/30/2007


KEVIN BURD
PRIMARY EXAMINER